ABSTRACT

A composition contains nanoparticles of retinoic acid as an active ingredient. The nanoparticles have reduced irritancy of retinoic acid and are suitable for subcutaneous or intravenous administration, as well as for use in sustained-release preparation. The high skin permeability of the nanoparticles makes the composition suitable for use in pharmaceutical or non-pharmaceutical external preparations or cosmetics intended for skin application.

The retinoic acid nanoparticles of the present invention are coated with an inorganic salt of polyvalent metal and can be dissolved in water to make a stable clear solution that can be formulated into injectable preparations for subcutaneous and intravenous administration.

The polyvalent metal inorganic salt coating helps reduce the irritancy of retinoic acid, so that the nanoparticles do not cause inflammation or tumor formation at the site of application.

The inorganic salt of polyvalent metal may be calcium carbonate, zinc carbonate or calcium phosphate.